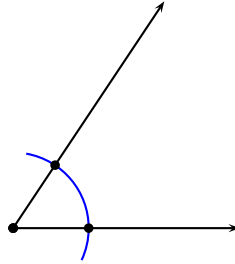


Compass and Straightedge Construction of Angle Bisector

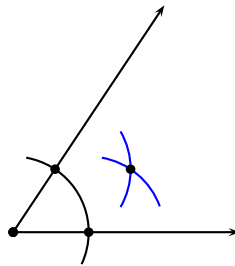
The material in this document is adapted from *PlanetMath*.

One can construct the (interior) angle bisector of a given angle using compass and straightedge as follows:

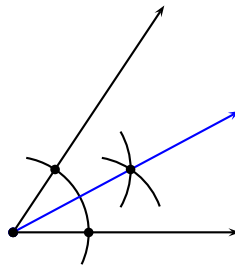
- (1) With one point of the compass on the vertex of the angle, draw an arc that intersects both sides of the angle.



- (2) Draw an arc from each of these points of intersection so that the arcs intersect in the interior of the angle. The compass needs to stay open the same amount throughout this step.



- (3) Draw the ray from the vertex of the angle to the intersection of the two arcs drawn during the previous step.



This construction is justified because the point determined in the second step is equidistant from the two rays and thus must lie on the angle bisector.